Commonwealth of Massachusetts
Executive Office of Environmental Affairs
Department of Environmental Protection

Compliance and Enforcement Performance Report Fiscal Year 2002

April 2003

INTRODUCTION

This report provides an overview of the Massachusetts Department of Environmental Protection's (DEP) compliance and enforcement performance for Fiscal Year (FY) 2002. A key objective of the report is to continue the transition begun in FY01 away from evaluating DEP's performance based solely on a tabulation of annual compliance and enforcement outputs and penalty dollars, sometimes referred to as "bean" counting. Therefore, the report emphasizes compliance measures that both quantify and communicate the impact of the Department's programs on the conduct of the regulated community and the quality of the environment. These two measurements, activity outputs and compliance outcomes, are linked through an evaluation of the strategic choices the Department makes in applying its mix of compliance, assistance and enforcement tools to deter non-compliance and achieve priority program objectives.

The report's first section focuses on the traditional accounting of compliance and enforcement actions. These measures of activity output reflect the level of the Department's field presence and the yield of the agency's sector or regulatory targeting choices in terms of lower and higher level enforcement actions and penalties. These figures also help express the implicit contribution compliance and enforcement makes in deterring future violations and recovering the economic benefit of non-compliance. When these outputs can be correlated to changes in compliance rates or reductions in emissions, they can provide essential information for strategic planning and future resource allocations. Information in this category is provided for the agency as a whole and for each of the Bureaus (Waste Prevention, Resource Protection and Waste Site Cleanup) for the last five years, since trend data is often more informative than year to year variations. As the report details, FY202 hit an agency-wide five year peak in higher level enforcement actions and the assessment of administrative and judicial penalties.

The second section reports on a range of measures and case examples to convey the story behind the "bean" counts- how inspections, monitoring and enforcement activities influence the regulated community's compliance conduct, and promote the long term benefits of pollution prevention and environmental stewardship. While our capacity to determine compliance rates or pollution reduction is growing, the information available for traditional output accounting is still significantly more comprehensive. This imbalance is largely due to data collection and data management systems improvements necessary to more comprehensively capture and evaluate both sector/facility-specific compliance and ambient environmental information. The Department has made substantial progress in developing the data system components necessary to automate and integrate the collection and assessment of compliance and enforcement information. If full implementation of these system improvements proceeds, it will transform DEP's capability to strategically plan, conduct, and measure compliance and enforcement.

In addition to statistical information and analysis, the report highlights initiatives that exemplify the scope of the Department's compliance and enforcement objectives. Strategic compliance and enforcement supplements baseline compliance and enforcement activities by focusing particular attention on a subset of the regulated universe or on a

resource area of special concern. Such emphasis can be triggered by a number of factors including:

- analysis of environmental monitoring data;
- need to ensure compliance with a new regulation;
- patterns of complaints from the public;
- priority areas of concern identified by the Administration; and
- patterns of noncompliance by a particular sector.

Together, baseline compliance and enforcement activities, combined with strategic compliance and enforcement initiatives, produce a broad-based enforcement presence across all environmental areas and a concentrated focus on our most important problems. As a regulatory agency, with a broad range of responsibilities, an active and diverse enforcement program is key to maintaining a desirable level of deterrence against non-compliance. Fair and consistent enforcement responses by DEP to important compliance problems can be effective in changing the behavior of a wide range of DEP's regulated community. This "deterrence effect" is a fundamental benefit of maintaining a vigorous enforcement profile and communicating the consequences of non-compliance.

SECTION 1: OUTPUT PERFORMANCE ACCOUNTING

The Department's compliance and enforcement (C&E) performance has traditionally been measured by an annual accounting of the C&E activities performed and the amount of money violators were assessed either directly by the Department or through referrals to the Attorney General's Office (AGO). Standing alone, these output tabulations have limited value in measuring C&E's contribution as one tool in an integrated environmental problem solving strategy. They don't communicate the link between agency actions taken and compliance-related behavioral changes in the regulated community or the resulting environmental benefits.

Despite these limitations, evaluating C&E activity outputs over time provides insight into the level and variety of effort the Department expends to foster deterrence against non-compliance and instills credibility that the public health, environmental and risk reduction protections around which our regulatory, permitting and monitoring programs are built, are being enforced. Output measurement also relates how compliance inspection and monitoring translates into enforcement actions, and the resulting cost the regulated community incurs in penalties arising from significant non-compliance. Counting actions completed also has management value as a measure of agency accountability. It allows for a comparison of actual to planned results and a baseline in tracking consistency in program and policy implementation.

The key output performance areas DEP measures are:

1. Total number of inspections conducted;
2. Number of Lower Level Enforcement (LLE) actions taken;
3. Number of Higher Level Enforcement (HLE) actions taken;
4. Monetary amount of administrative and judicial penalties assessed and collected;
5. Monetary amount of environmental alternatives to penalties; and
6. Staff resources committed to compliance and enforcement activities, measured as "Full Time Equivalents" (FTEs).

Agency-Wide and Bureau Outputs

Inspections

The physical visit to review a regulated site's/facility's compliance status, i.e. the traditional inspection, remains the mainstay of DEP's compliance assessment program. Inspections are conducted for a variety of reasons, such as: planned as part of a program's standard assessment of a sector, program specific follow-up at a facility that has been the subject of a prior multi-media inspection, ensuring compliance with performance milestones established in administrative orders, or an investigation in response to citizen complaints. In addition to administrative inspections, the Environmental Strike Force also conducts hundreds of investigations to determine if the facts of a violation give rise to a criminal prosecution by the AGO.

Selecting which facilities or sites to inspect calls for balancing many factors including relative risk and environmental impact, environmental justice, enforcement history, complaints and the outcome objective of strategic program initiatives. DEP continues to invest significant inspection resources at facilities permitted to emit large volumes of air or wastewater pollutants and industrial operations generating large volumes of hazardous waste, so called "major"[1] facilities. Over the last two years, DEP inspected 64 percent of the major air pollution sources, 27 percent of the major hazardous waste management facilities and 55 percent of the industrial and 71percent of the municipal major NPDES (surface water discharge) permit holders during the prior two years.[2] In addition, DEP inspected 38 percent of the major multi-media facilities; facilities which hold permits for one or more major sources.

While a complete analysis of DEP's work in minority and low income areas has not been performed, a recent Department analysis documented that approximately 30 percent of the Bureau of Waste Prevention inspections of major facilities were conducted in environmental justice (EJ) neighborhoods[3]. This inspection rate is consistent with the percentage of the permitted universe of these facilities located within EJ areas. In addition to major facility inspections, DEP has undertaken other significant efforts to mitigate adverse impacts and risks to minority communities. These initiatives include reducing sources of mercury and diesel emissions, facilitating and enforcing the clean-up of contaminated sites and mandating the most stringent controls in the country on emissions from power plants and municipal waste combustion facilities.

Focusing only on facilities that are regulated under federal law either directly or as delegated to DEP ignores many other "state-only" sectors with potential public health and environmental risks including solid waste management facilities, asbestos abatement and removal activities, discharges of effluent to ground water and septic systems, gasoline fuel dispensers, wetlands, water withdrawals, and facilities illegally operating without permits. Moreover, over the past several years, DEP has redirected resources from repetitive inspections at major facilities with good compliance histories to mid and small sized facilities that, due to their proximity to sensitive resources or populations or geographic concentration, were more likely to pose a significant health or environmental threat.

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[1] For example, a major air quality source is defined as one with the potential to emit 50 tons per year of oxides of nitrogen (NOx) or volatile organic compounds (VOC), 10 tpy of a single hazardous pollutant or 25 tpy of any combination of hazardous pollutants, or 100 tpy of any other pollutant.

[2] A news story published last December reported that DEP had only inspected 27 percent of the major sources and only 17 percent of those inspections were in environmental justice areas. The source of information was an EPA national internet C&E database (Enforcement and Compliance History OnIine-ECHO) launched as a pilot without state and federal agencies or the regulated entities having a full opportunity to correct missing, erroneous and stale information. These errors have now largely been corrected, and the percentages in this report are obtained from DEP's database.

[3] The analysis, based on the definition of EJ Populations in the Environmental Justice Policy of the Executive Office of Environmental Affairs, considered areas where 25 percent or more of the residents are minority, foreign born or lacking in English proficiency or whose medium income is at or below 6 percent of the statewide medium income.

One key compliance activity not accounted for in the list above is the review of compliance monitoring information including, for example, effluent discharge and air emission monitoring reports, laboratory test results, or assessment reports on contaminated sites or resources. In FY02, for example, the Bureau of Resource Protection alone reported reviewing over 62,000 compliance reports, a 52 percent increase from the 1998 level. Agency-wide it is estimated that over a quarter of a million compliance related documents are submitted annually. Review of these documents are not considered inspections, but a portion of the annual enforcement actions taken are a direct result of violations documented in those reports or the failure of the responsible party to submit the documents necessary to determine its compliance status. The volume and variety of compliance reports makes it currently infeasible to comprehensively track the reports that trigger an enforcement response. Investments DEP is making in innovative data management applications for electronic filing and evaluation of compliance reports will allow an increasingly accurate perspective on the significance of compliance monitoring and reporting as enforcement tools.

Lower and Higher Level Enforcement

Lower Level Enforcement (LLE) actions include a variety of Notices of Non-Compliance (NON). NONs are generally used to require correction of minor compliance problems, provide notice that an existing practice is unacceptable, and/or take the first official step of establishing a formal process for issuing administrative penalties if problems are not corrected or reoccur. Higher Level Enforcement (HLE) includes a range of separate or combined enforcement actions, including: administrative orders, penalty assessments, notices of response action and audit findings under the Waste Site Cleanup program and permit and license sanctions. The HLE category also includes referrals to the Licensed Site Professional Board for potential disciplinary actions against LSPs who fail to meet professional standards in the oversight of hazardous waste cleanup actions under the Massachusetts Contingency Plan. Certain types of HLE are referred to the U.S. Environmental Protection Agency (EPA) or the Attorney General for civil or criminal prosecution.

FY02 was an exceptionally strong year for HLE actions, increasing 21 percent over last year's level and 25 percent over the five-year average, consistent with the general trend of an increase in HLE over the last five years. Referrals also increased by 14 percent. The inspection rate was generally stable with less than a ten percent annual variation over the last five years. The LLE rate was down 16 percent, but the data shows this trend is consistent with the annual variations in the number of inspections conducted.

TABLE 1
TOTAL DEP COMPLIANCE ACTIVITIES

	FY98	FY99	FY00	FY01	*FY02*	5 Yr Avg
Compliance Inspections	7608	7046	7073	7626	**7066**	7284
LLE	2148	2686	2649	2952	**2472**	2581
HLE - Administrative Actions	390	453	550	466	**612**	494
HLE - Referrals	40	28	29	42	**48**	37

Annual variability may also result from on-going refinements in the data collection methodology or be an artifact of the fiscal year accounting system that closes the books on June 30th. As a result, on-going enforcement actions that are finalized even a short time thereafter are counted in the next fiscal year

An important factor in the increasing trend of HLE over the past five years is the growth in the allocation of resources DEP has been able to dedicate to compliance and enforcement.

TABLE 2
FULL-TIME EQUIVALENT STAFF ALLOCATED TO PERMITTING AND C&E

	FY 1998	FY1999	FY2000	FY2001	FY2002
Permitting	102	104	105	104	109
C&E	139	148	154	154	161

Table 3 distributes the agency-wide outputs over the three Bureaus: Waste Prevention (BWP), Waste Site Clean-up (BWSC) and Resource Protection (BRP).

Table 3
BUREAU COMPLIANCE AND ENFORCEMENT ACTIONS

BWP	**1998**	**1999**	**2000**	**2001**	***2002***	**5 Yr Avg**
Inspections	3542	2432	2576	2459	**2763**	2754
LLE	592	852	862	563	**696**	713
HLE Administrative and Referrals	181	147	180	164	**209**	176

BWSC						
	1998	**1999**	**2000**	**2001**	***2002***	**5 Yr Avg**
Inspections	1529	1292	1277	1688	**1387**	1435
LLE	607	693	830	1249	**1004**	877
HLE Administrative and Referrals	58	104	132	150	**217**	132

BRP						
	1998	**1999**	**2000**	**2001**	***2002***	**5 Yr Avg**
Inspections	2523	2742	2688	3015	**2387**	2671
LLE	949	1141	957	1140	**772**	992
HLE Administrative and Referrals	167	220	227	179	**211**	201

The five-year data shows a generally consistent trend toward an increase in HLE across all three Bureaus. BWSC's HLE rose 44 percent (five-year high), BWP rose 27 percent and BRP rose 17 percent. All the FY02 HLE levels exceed their 5-year averages. There

remains, however, considerable annual variability among the C&E categories within and across the Bureaus. These differences reflect a wide variety of factors including:

- Warning Letters and Notices of Deficiency. Reliance on warning letters and notices of deficiency to more efficiently correct minor violations prior to the commencement of formal enforcement actions. For example, sending deficiency notices to correct facility shortcomings in compliance with the solid waste ban inspection rules resulted in only a handful of NONs to be issued to recalcitrant violators.

- The maturity of the enforcement strategies. The first year or two of an enforcement initiative is likely to yield more HLE actions for the number of inspections, but as the deterrent effect of enforcement is felt, the number of repeat offenders declines, compliance rates improve and fewer HLE actions are generated. Many of the large wastewater treatment facilities are now operating under administrative consent orders generated over the last five years. While substantial inspections and monitoring activities are conducted to ensure the facilities are meeting their long-term return to compliance schedules, the lack of new HLE actions is a measure of the initiative's success.

- Regulatory and compliance policy schedules. Time staggered compliance schedules may be adopted to advance broader programmatic goals such as the watershed schedule to accommodate water resource assessment and community planning. The concentration of different types of permitted facilities in the particular set of basins can also have a significant effect on compliance and enforcement outputs. Compliance initiatives targeting 5-year permit renewals or specific industry sectors also influences annual outputs.

- The relationship between the regulated community and DEP's programs. Programs that are consistently experiencing increases in their regulated universe without compliance experience (homeowners who enter the hazardous waste site program as a result of oil spills) require a different response than programs with a more experienced, stable (public water supply) or decreasing (large quantity hazardous waste generators) universe. Individuals who indirectly enter the regulatory system for the first time through property acquisition are more likely to make compliance less of a priority than facility operators who have long term permitting and compliance relationships with the Department.

- Variations in the regulated universe. The sectors regulated by BRP has a large component of municipal facilities and the BWSC universe has a significant component of homeowners or property owners without the financial capability to come into compliance, while BWP's universe ranges from the largest industrial manufacturers and waste management facilities down to the local dry cleaner or gas station. Achieving and maintaining compliance in each of these sectors requires a strategic balance of a range of compliance, enforcement, and compliance assistance tools.

While most non-compliance with the Commonwealth's environmental laws and regulations can be adequately redressed through administrative or civil judicial actions, particularly egregious violations require more punitive response. Formed in 1989, the Environmental Strike Force (ESF) is a joint operation between DEP, the Environmental Police, and the AGO to investigate and prosecute criminal and major civil environmental violations, or refer matters for federal prosecution. The ESF focuses on violations where there is a high risk to human health or sensitive resources including illegal discharges/disposal of toxics or asbestos, and where there is knowing and intentional fraudulent activity designed to circumvent compliance. Where an investigation reveals potential non-criminal violations of environmental laws, the matters are referred to the AGO's civil division or the appropriate Bureau's administrative enforcement group.

TABLE 4
ENVIRONMENTAL STRIKE FORCE ACTIVITIES

	1998	1999	2000	2001	***2002***	5 Yr Avg
Inspections	531	462	492	434	497	483
HLE Referrals	26	10	14	15	12	15

ESF investigations in FY02 led to 10 criminal convictions and fines in excess of $1.1 million dollars including:

- A demolition contractor who disposed of contaminated soil at two residential developments and numerous commercial properties in and around the Boston area
- Six companies removing asbestos from residences and business or demolishing buildings in a manner that exposed workers and occupants to asbestos and illegally dumping the asbestos where other members of the public would be exposed.
- An environmental consultant who submitted several fraudulent assessments of properties contaminated with hazardous waste.
- An electronics manufacturer that illegally discharged toxic effluent in its septic system contaminating the groundwater, including an onsite drinking water well.
- A hazardous waste disposal contractor who left leaking drums of waste in trailers.

The assessment of monetary penalties for violations serves several purposes. Primarily, it acts as a deterrent by exacting a price for non-compliance beyond the expenditures required to return to compliance and remediate the damage caused. In appropriate cases, the penalty also reflects the economic benefit the violator may have obtained by avoiding or deferring compliance-related costs or investments. Penalty assessments also send a positive message to the regulated community that compliance does not put them at a competitive disadvantage with those who pursue lower costs by violating environmental protection rules.

TABLE 5
TOTAL DEP ADMINISTRATIVE AND JUDICIAL PENALTIES

	FY98	FY99	FY00	FY01	*FY02*	5 Yr Avg
DEP Total $ for Administrative Penalties	$2,561,415	$1,571,298	$1,613,430	$2,671,011	**$3,432,743**	$2,369,980
AG Civil	$2,006,708	$1,584,262	$4,031,500	$670,000	**$1,166,625**	$1,891,820
AG Criminal	$79,000	$1,500	$32,500	$116,000	**$1,442,300**	$334,260
AG $ Totals	$2,085,708	$1,585,762	$4,064,000	$786,000	**$2,608,925**	$2,226,080
DEP & AG $ Totals	$4,647,123	$3,157,060	$5,677,430	$3,457,011	**$6,041,668**	$4,596,060
Environmental Alternatives to Penalties	$331,925	$515,055	$534,225	$780,207	**$625,610**	$557,410
Total Equivalent Penalty Dollars	$4,979,048	$3,672,115	$6,211,655	$4,237,218	**$6,667,278**	$5,153,470

Administrative penalties are assessed through Administrative Consent Orders with Penalties (ACOP), which detail specific actions the violator must take to return to compliance in addition to the penalty, or Penalty Assessment Notices (PAN) that only demand payment of a penalty. Slightly over 50 percent of all HLE actions in FY02 had a penalty component. The average administrative penalty in FY02 was approximately $11,000. Administrative penalties levied by DEP and fines and penalties collected through judicial actions by the AGO saw a marked increase in FY02. Administrative penalties rose nearly 30percent over the prior year, and judicial penalties more than tripled.

In recent years, the Department has looked towards compliance and enforcement alternatives that produce broader and permanent environmental results without sacrificing the deterrence value of making non-compliance more costly than compliance. The Environmental Alternative to Penalties (EAP) represents the estimated value of the cost incurred by violators to fund environmentally beneficial activities in lieu of paying a proportional amount as a penalty. These environmental alternatives to penalties require violators to incur costs to establish and maintain Environmental Management Systems (EMS), which help facilities integrate compliance activities into routine business operations, conduct or fund Supplemental Environmental Projects (SEP), which can provide a wide range of environmental benefits and assess and install pollution prevention methods and equipment that reduce the volume and toxicity of chemicals used and waste streams generated. Some examples of SEPs include:

- Verizon New England, Inc. installed and operated emergency generators at nineteen locations throughout Massachusetts without necessary air quality permits. The SEP requires Verizon to purchase Low Emission Vehicles for its fleet, up to the value of the SEP and, based on the LEV's performance, provide follow up information to other companies who are considering adding LEVs to their fleet.

- Intellisense Corp. was targeted for inspection due to their use of inappropriate hazardous waste ID's on manifests. Intellisense agreed to fund a SEP whereby a Hazmat Trailer will be purchased for the Wilmington Fire Department.

- Saints Memorial Medical Center had exceeded the emission limits established in the restricted emission approval. The SEP calls for the hospital to provide outreach to other hospital facilities on topics involving environmental issues.

- Aggregate Industries-Northeast Inc. installed and operated a rock crusher without appropriate air quality permits. Aggregate Industries will retrofit heavy-duty off-road vehicles at its Swampscott facility consistent with the Massachusetts Diesel Retrofit Program. If money remains after retrofitting all such vehicles at Swampscott, then Aggregate will retrofit vehicles at other facilities in Massachusetts that it operates.

SECTION 2: OUTCOME PERFORMANCE MEASURES

The measurements discussed in this section look beyond the number of compliance and enforcement actions performed and towards the impact created by those action in the conduct of the regulated community, the reduction of pollution and the promotion of environmental stewardship.

COMPLIANCE RATE PROFILES

Compliance by the regulated community with environmental regulations and permit conditions is the primary objective of the Department's inspection, monitoring, and enforcement activities. While compliance rates do not directly determine the quality of the environment and public health, they can provide information on the extent to which a sector's regulated activities are significant contributors to pollution or increased risk of adverse health effects, providing the Department and the public with valuable priority-setting guidance. Measuring compliance can also provide a yardstick to evaluate the effectiveness of the mix of compliance assurance tools the Department applies to a particular sector of the regulated universe. Identifying and drawing distinctions based on the relative significance of violations therefore becomes an important component in using compliance rates as a performance measurement. As our data management and measurement tools become sophisticated, we can generate analyses of the specific types and patterns of violations within each program and tailor the Department's response to the particular problem.

Public Drinking Water Supplies

Public water systems across the Commonwealth comprise a variety of drinking water supplies that range from community systems serving residential populations, through non-community non-transient systems such as schools and residential-type institutions, to transient-non-community systems (TNC) such as restaurants or campgrounds that only serve short-term customers. Since supplying drinking water to the public is not their primary business, most TNCs do not think of themselves as public water systems, and were historically the most frequent violators of monitoring and reporting requirements. Ensuring safe drinking water from facilities varied in ownership, size and water source present a multitude of compliance and enforcement challenges. Revisions in federal rules governing water supplies can also affect compliance rates as facilities adjust to the new requirements.

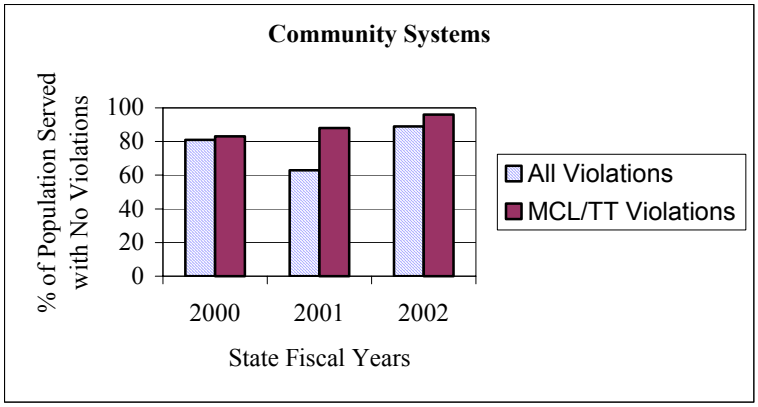
The compliance profiles below demonstrate that those challenges are being met through a combination of compliance assistance and consistent escalating enforcement. All of these measures contribute to the water quality goals, but violations can be more or less significant depending on their nature, degree, and frequency. While the higher-level enforcement trend had been increasing over the last few years, its deterrence effect is now showing through increased compliance and declining demand for HLE. Looking at it from a systems' perspective (Table 2), 83 percent of the suppliers were in compliance with all the drinking water monitoring, reporting, and health based requirements. Seventeen percent of these systems were in non-compliance at least once during the year, but many were related only to minor reporting and monitoring violations. Only 6 percent of the systems incurred significant non-compliance that required higher-level enforcement actions to be taken.

TABLE 6
PUBLIC WATER SYSTEMS OVERALL COMPLIANCE AND SIGNIFICANT NON-COMPLIANCE RATES FOR FY-01-02.

FISCAL YEAR	TOTAL # OF PUBLIC WATER SYSTEMS	# OF PUBLIC SYSTEMS WITH VIOLATIONS	# OF VIOLATIONS	OVERALL COMPLIANCE RATE	SIGNIFICANT NON-COMPLIANCE RATE
2001	1595	398	701	75%	5%
2002	1670	280	468	83%	6%

An alternative performance measure to evaluate the quality of the water supply systems is to examine the compliance rate in relation to the number of people served by systems in compliance with health based standards. The last three years of data shows a clear trend of increased compliance, with 96 percent of the population being served by community systems that had no violations of health-based standards in the last fiscal year (Chart A).

CHART A. PERCENTAGE OF POPULATION SERVED BY SYSTEMS WITH NO VIOLATIONS OF MAXIMUM CONTAMINANT LIMIT/TREATMENT TECHNIQUES



Providing clean and safe drinking water at the tap is not only a matter of ensuring that the source water is protected from contamination but equally significant that the treatment and distribution systems are properly operated and maintained. The two charts below demonstrate the program's success in having nearly 100 percent of all water systems being operated by certified operators and having distribution protection plans in place.

Chart B. % of Systems with Certified Operators

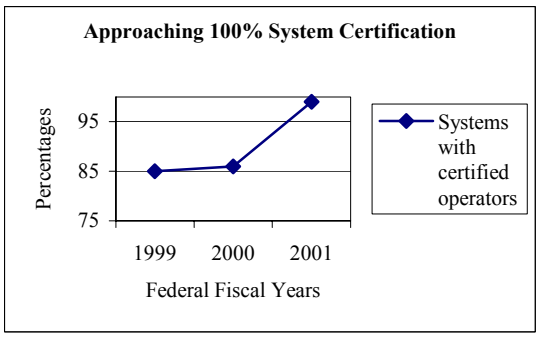
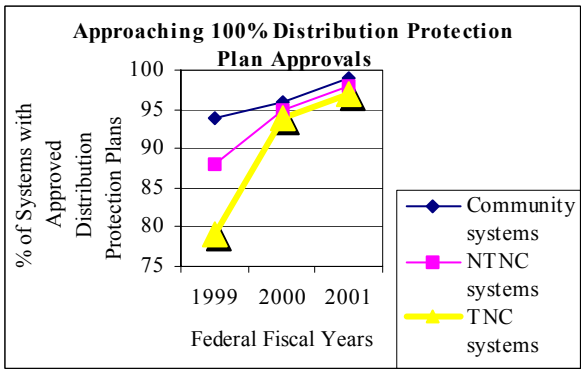


Chart C. % of Systems with Distribution Plans



Discharge to GroundWater

Groundwater discharge permits are issued to a variety of institutions and businesses, including municipal facilities, schools, condominiums and car washes, that discharge wastewater into the ground. In July of 2000, in response to an ever-increasing number of dischargers and review of the overall compliance status of the groundwater discharge sector, DEP instituted the Groundwater Comprehensive Compliance Strategy (GWCCS). As a direct result, the number of facilities with any type of significant noncompliance dropped from 120 to 59, a 64 percent decline (Table 7). In addition, the GWCCS also observed a substantial improvement in compliance with monitoring, reporting, and permit renewal requirements, as well as some improvement in compliance with effluent and groundwater quality standards. From the baseline year to the end of FY02 the:

- Total number of missing discharge monitoring reports (DMRs) dropped from 147 to 11.
- Facilities with missing Discharge Monitoring Reports dropped from 21 to 6.
- Facilities who did not submit a renewal application dropped from 16 to 3.

TABLE 7
SIGNIFICANT NON-COMPLIANCE RATE FOR GROUNDWATER DISCHARGE FACILITIES

FISCAL YEAR	# OF FACILITIES	# OF FACILITIES WITH SIGNIFICANT VIOLATIONS	(%) SIGNIFICANT VIOLATION NON-COMPLIANCE RATE *
Baseline (11/98-10/99	140	120	86%
FY01	162	62	38%
FY02	183	59	32%

*Significant noncompliance means those violations subject to a NON and includes the administrative violations mentioned as well as violations of permit effluent limits and groundwater quality standards.

The GWCCS continues to have a positive impact on the overall compliance rate of these dischargers. Its success in boosting the volume and regularity of discharge monitoring reports has allowed the program to focus on increasing compliance with permit discharge limits and groundwater quality standards. Year to year compliance comparisons for this sector are complicated by the doubling in the number of effluent parameters as a result of an increase in the number of facilities and effluent monitoring requirements. A more detailed analysis of this data and a compliance response strategy is being undertaken. Further improvements to the groundwater database system are needed in order to better analyze the groundwater data. Inclusion of the monitoring well data in the data system will be a big step towards the proper analysis of the compliance rate of this group and in determining the actual effect these discharges may be having on the environment.

Discharges to Surface Waters

During FY02, BRP inspected 57 major and 63 minor facilities that received NPDES permits to discharge treated wastewater into surface waters of the Commonwealth. The number of NPDES facilities that are inspected annually varies based on four factors: (1) coordination of facility inspections with EPA; (2) which watershed basins are scheduled for BRP compliance reviews as part of the five-year Basin Cycle; (3) verification of

compliance with milestones contained in existing enforcement orders; and (4) response to complaints.

Discharge Monitoring Reports (DMRs) are also a key source of data on facility compliance. Of the entire universe of BRP NPDES permittees, 20 percent had some incidence of non-compliance at some point over the year, but most of these violations were low level in nature and do not represent a pattern of significant non-compliance. These instances of non-compliance include one-time excursions from permit limitations due to temporary plant upsets, or violations not directly related to effluent quality, such as failure to report specific data or failing to report on time.

For FY02, only 5 percent of BRP NPDES facilities had violations that constitute significant noncompliance (SNC) as reported by the U.S. Environmental Protection Agency. This is a four-fold improvement over the FY01 SNC rate of 23 percent. Of course, weather conditions and other factors play an important role in a facility's ability to meet the compliance parameters, but improved enforcement influences the facility operator's behavior, a critical factor is sustaining consistent compliance. All significant violators were subject to enforcement actions initiated by either the Department or EPA Region 1.

Nearly three quarters of facilities on the SNC list are only SNC for violations of copper limits. All are under orders from EPA to assess their situation and optimize reduction, recognizing that levels less that 0.01 mg/l are almost impossible to meet. Four (12 percent) are SNCs for not submitting Compliance Schedule Reports or not reporting on time. The remaining facilities with effluent violations other than copper are all under ACOs (e.g. Brockton, Templeton, Winchendon.)

The extremely stringent permit limitation for the concentration of copper at many publicly owned treatment works (POTWs) accounts for a significant portion of the total number of facilities reported to be in significant non-compliance, although greater than 90 percent of these facilities are passing the Whole Effluent Toxicity (WET) testing. The department is developing site-specific copper criteria for Massachusetts in accordance with EPA guidelines with the goal of establishing more relevant copper limits than the existing National Criteria established by EPA. The Department believes the use of site-specific criteria will provide an equal protection to the environment and drastically reduce the number of POTWs currently in non-compliance for only copper.

The chronic compliance problem with copper discharge limits illustrates the importance of evaluating the story behind the bare numbers. By just focusing on whether limits were met or not, regulators can miss important trends or underlying causes that go beyond the annual "pass/fail" rating. With the copper discharge issue, analyzing the causes and consequences of the violation pattern revealed the need to evaluate the application of the regulation's performance standard and consider alternative strategies to achieve appropriate environmental protection.

Assessment and Remediation of Hazardous Waste and Oil Contaminated Sites

Since October of 1993, the identification and cleanup of contaminated sites has been conducted under a regulatory program, the Massachusetts Contingency Plan (MCP), that relies in large measure on property owners and their Licensed Site Professionals to conduct assessments and implement remediation plans in accordance with the standards and timetables established in the MCP. Approximately three-quarters of the nearly 18,000 sites that entered the MCP system between October of1993 and FY02 were contaminated with oil products (heating oil, gasoline and diesel fuel) and approximately one-quarter involved hazardous materials. Over 70percent of the sites entering the system since October of 1993 have been closed out in compliance with the MCP.

Once a release of oil or hazardous material (OHM) is reported, it is important that the responsible party complete the assessment and cleanup of the site in a timely manner. The MCP has specific milestones for each of the key phases of site assessment and remediation activities. A key first step in this multi-step process is to "tier classify" the site based on the degree of risk posed by the release of OHM. According to the MCP regulations this tier classification needs to occur within one year of reporting a release of OHM. Once a site has passed the one year anniversary without tier classification, it is automatically classified "Default Tier 1B" by DEP and is considered out of compliance with the MCP.

In 2000, DEP initiated a strategy to address the Default Tier 1B issue. At the time, approximately 1,550 sites were categorized as Default Tier 1B. There were many complicating factors that DEP needed to consider in developing a strategy to deal with those sites:

- There is a continuous influx of new Default Tier 1B sites each year, as sites reach their one year anniversary,

- Not all Potentially Responsible Parties (PRPs) are created equal, e.g., some are major businesses with resources to deal with the release of OHMs, while others are homeowners with very limited resources,

- At many sites there are no longer viable PRPs, or the PRPs are unknown.

To address these factors, DEP developed a multi-faceted compliance strategy that attempted to account for the wide range of variables in the regulated community:

- Anniversary reminder letters were issued to sites approaching their one-year tier classification deadline. A significant improvement was noted with major decreases in the creation of new Default Tier 1B sites, and for once the backlog of these sites is finally decreasing. The annual average of new Default Tier 1B sites had been about 300 per year. In FY02 it was 163, a 50 percent reduction in non-compliance attributable largely to the anniversary letters.

- For sites with viable PRPs, DEP instituted a phased enforcement strategy, in which Notices of Noncompliance (NONs) were issued to the PRPs followed by

higher-level enforcement when necessary. DEP discovered that NONs alone resulted in compliance in approximately 80 percent of cases.

- Homeowners comprise a significant portion of remaining Default Tier 1B sites. DEP's approach to homeowners has focused on technical assistance, holding back on enforcement in many cases while homeowners move through the MCP process. DEP is working with outside stakeholders to review future options for better addressing homeowner MCP issues.

This multi-pronged strategy has successfully addressed 35 percent of the sites that were listed as Default Tier 1B when the project began, and has led to a net 15 percent reduction in noncompliance after taking into account new violations. While there remains much to do in order to get all Default Tier 1B sites into the MCP system, this model shows how "not one shoe fits all sizes" when it comes to applying traditional C/E regulatory tools to achieve compliance. However, when one carefully analyzes the features of a regulated universe, tailored models can be developed among diverse segments to maximize compliance results.

Industrial, Commercial, and Waste Management Facilities

As discussed in Section 1, the Department relies on both physical inspections and reviews of air and water discharge emission reports to monitor a facility's compliance performance (Compliance Monitoring Actions). Regulations and permit conditions not only prohibit or limit the type and quantity of pollutants that can be discharged, but also require that operations' management, monitoring and reporting activities be consistently conducted in order to reduce potential environmental and public health risks and inform the Department and the public of the facility's performance. In those instances where non-compliance does not present an actual or substantial threat to public health or the environment or is not part of a pattern of non-compliance, a lower level enforcement (LLE) action is appropriate. If the violation is serious or the NON is ignored, higher-level enforcement (HLE) is taken.

Table 8 reviews the compliance performance of several different types of facilities regulated by BWP.

TABLE 8
ENFORCEMENT RATES FOR SELECTED BWP FACILITIES

SECTOR	UNIVERSE OF FACILITIES	NUMBER OF COMPLIANCE MONITORING ACTIONS	LLE ENFORCEMENT RATE	HLE ENFORCEMENT RATE
Major Facilities	1050	125	37%	8%
Stage II	3100	90	97%	2%
ERP	2000	100	42%	1%
Solid Waste	300+	470	4%	1%

Major facilities include a diverse population of facilities operating under permits controlling substantial air quality or industrial wastewater emissions or the use and management hazardous chemicals or waste products. These facilities are generally well managed, where a combination of Department oversight through inspections and monitoring and their internal compliance management systems maintains reasonably good compliance. As reflected in Table 8 above, because of the scope of their operations and the level of regulatory detail, it is not unusual to find minor violations at these facilities to which the appropriate response is a NON. At the same time, the elevated HLE rate in this category as compared to the other sectors indicates that the gravity of the potential impacts or risks from violations at these larger facilities is more likely to require an immediate higher-level enforcement response. With relatively minor variations of a few percentage points, this pattern of LLE to HLE has remained fairly stable over the past 5 years.

Stage II (gasoline fuel dispensers) and Environmental Results Program (ERP) facilities (dry cleaners, printers, photo-processors) are generally small to mid-size operations without the resources to fund sophisticated compliance auditing programs, but who will respond to consistent outreach and low level enforcement to maintain compliance in core operations related to limiting air emissions or waste water discharges. Currently 95percent of ERP facilities submit their annual compliance certifications, and service stations are maintaining their vapor recovery systems to capture 70-80 percent of volatile contaminants.

These sectors have responded to a combination of annual reporting/certification requirements and consistent LLE enforcement for small businesses, but major HLE actions against corporate chains and franchise operations have been instituted where extensive patterns have been discovered. For example, ERP certification reviews of a camera dealer with 34 stores (Ritz Camera) found a pattern of non-compliance with hazardous waste and industrial wastewater violations. In addition to paying a penalty, the company agreed to develop an environmental management system (EMS) and to conduct an SEP to train vocational students on environmental compliance for photo-processing and pollution prevention. In an action to enforce Stage II requirement, a DEP and EPA enforcement partnership yielded a substantial penalty and a SEP under which a gasoline retailer (Cumberland Farms) agreed to install vapor recovery systems at 42 gas stations reducing VOC emissions by as much as 70 tons annually and benzene emissions by 1,200 pounds per year.

Over the past decade, the solid waste management system has seen a shift from municipal to large corporate control of landfills and a major expansion of recycling and processing facilities for both municipal and construction and demolition waste. Facilities run by these more experienced and better-financed operators generally have a better compliance track record than the municipal operations they replaced, although HLE for constructing or operating without appropriate permits has occurred. During FY02, DEP began more aggressive enforcement of the regulatory prohibition of disposal of recyclable materials ("waste ban") through a comprehensive initiative that included inspections of solid waste disposal and transfer facilities. The number of per facility inspections corresponded to the facility's size from inspections twice a year for 25 tpd operations to one a month for the

largest facilities. A total of 148 out of approximately 230 facilities (64 percent) were inspected resulting in a total 26 enforcement actions (17 percent) of which only 3 were HLE. As a result of the enforcement activity, solid waste facilities are reporting that they are seeing fewer loads containing banned recyclables. A large transfer station operator reported that the number of "failed load" had been cut in half, and Waste Management has adopted a program that includes outreach to its business customers, a waste ban sticker adhered to all its dumpsters, and a failed load tracking system with its haulers and customers.

POLLUTION REDUCED

One of DEP's core strategic objectives is to eliminate or reduce the volume and toxicity of chemicals used and waste streams generated. Enforcement actions taken in response to non-compliance can provide a strong motivation for the regulated entity to consider changes in its infrastructure and operations to reduce or better manage its toxics. It provides the Department with the opportunity to share its expertise or direct the violator to other technical assistance, and establish an enforceable obligation to pursue pollution prevention as part of an overall resolution of the enforcement action.

The Bureau of Waste Prevention has developed a protocol to track pollution prevention outcomes. In some instances, it is possible to estimate the quantity of pollution prevented as a result of the enforcement. Approximately 160 tons of ozone forming and hazardous air pollutants were eliminated from further release into the environment and 5.4 million gallons of water conserved as a result of actions taken by regulated community in response to DEP enforcement in FY02. Those actions took a variety of forms including, for example, changes in raw material input substitutions, production design and operation modifications, on site recycling, and implementation of an environmental management systems with pollution prevention measures. For example, enforcement against air quality violations in a manufacturing plant in Taunton led the company to replace a degreasing unit emitting volatile organic compounds with a water based unit, reducing the release of 3,300 pounds per year of trichloroethylene by 99 percent. Similar enforcement actions involving companies using paint spray booths, stripping furniture, and molding plastics often direct the company to solutions that eliminate or substantially reduce emissions below permitted levels.

PROMOTING ENVIRONMENTAL STEWARDSHIP

Sustaining consistently high levels of compliance across all sectors of the regulated community cannot be solely dependent upon the deterrent effect of individual enforcement actions. Facility operators and project developers need to make environmental compliance a core function of how they conduct research, produce products, construct roads, homes and offices, and provide services. In FY02, DEP continued its efforts to motivate the public and private sectors to institutionalize compliance reviews through the development and application of environmental management systems or regular compliance auditing. The term, Environmental

Management System (EMS) encompasses a broad range of on-going management processes and procedures that allows an organization to systematically analyze, control and reduce their environmental activities, products or services. One venue to introduce these concepts is to give violators an opportunity to develop and implement an EMS as part of the resolution of an enforcement action. Seventeen ACOs included the development of an EMS during the FY02, bringing to nearly 50 the number of EMSs initiated through enforcement actions over the past four years.

DEP has also promoted EMS and compliance auditing outside the direct enforcement context. DEP and EPA Region 1 co-sponsored an initiative to motivate colleges and universities to audit their facilities for potential violations of state and federal environmental regulations in areas such as hazardous waste management, air emissions, and storm water management. As an incentive, institutions that participated were placed on a low priority inspection list and were ensured that no penalty would be assessed for violations that were reported in accordance with the agencies' self audit policies. Fifty-two private and public colleges in Massachusetts committed to participate in the initiative and are now submitting audits identifying and certifying correction of several hundred violations. In addition, DEP and EPA also organized an EMS forum that brought together university representatives with experience developing environmental management systems with their peers from other schools who were interested in instituting an EMS at their campus.

DEP has carried a similar message to municipalities whose operation of public works, vehicle maintenance, and wastewater treatment facilities often are discovered to be in non-compliance due to a lack of consistent planning and oversight by their operations managers. To address this shortcoming and evaluate the benefits an EMS might have for these managers, DEP developed a Municipal Stewardship program, funded by EPA, which offered small grants to about a dozen municipalities who expressed a commitment to develop and implement an EMS to meet their community's specific compliance issues. The program includes mentoring and advanced EMS training, implementation of EMS activities, and measurement of environmental performance.

Environmental compliance cannot just be a priority for the private or municipal sector. It is also a public responsibility of state agencies. Ten years ago the Clean State program commenced with the promulgation of Executive Order 350 requiring all state agencies to assess their environmental compliance status, correct existing violations and assume on-going responsibility to maintain compliance. During the ensuing years, state agencies and authorities expended over $250 million to resolve more than 3000 non-compliance matters. In July of 2000, the Department concluded ACOs with state agencies that established timelines to remediate the remaining 1,400 matters. In FY02, state agencies resolved 450 outstanding matters bringing the total to over 850 matters resolved over the past two fiscal years. In July of 2002, Executive Order 438 was issued creating the State Sustainability Program that, in addition to reinforcing the obligation for state agencies to be environmentally compliant and report violations, establishes a set of sustainability targets in areas of energy and water conservation, pollution prevention, and green building design and operation. The Executive Order reinforces the principle that environmental compliance and sustainability both benefit by being integrated into

comprehensive stewardship approach that enhances the environment and improves the production of goods and the delivery of services.

SECTION 3: GOING FORWARD

The positive performance measured in this report documents the high priority the Department has assigned to compliance and enforcement in achieving its environmental objectives. Its importance is reflected in the allocation of resources, the development of new measures of success, the investment in information technology systems and the emphasis on innovative approaches to promote environmental stewardship and sustainability. These programmatic advances have their source in the commitment of the Department's management to maintain Massachusetts' leadership on environmental issues and the ability to draw on an experienced and stable compliance and enforcement staff to work on projects from development through implementation.

The budgetary reductions that the Department has absorbed to date and the further anticipated fiscal constraints pose a formidable set of challenges requiring significant adjustments to our planning and operations. In the near term, DEP has continued to prioritize compliance and enforcement and focused less on activities such as permitting, technical assistance, and compliance monitoring in lower risk categories. As the transition moves forward, the Department will need to continue to triage its activities based on assessments of the risk and benefits to public health and the environment. C&E activity outputs are likely to be reduced, and new approaches will be required to ensure that regulatory compliance is not diminished and the investments made in pollution prevention and stewardship are sustained.

In going forward, DEP will direct its attention to the strategic decisions required in policy, operations, management, and technology to increase the efficiency and effectiveness of our compliance and enforcement efforts. The areas of focus under development include:

- Information Technology. DEP receives, reviews, records and responds to hundreds of thousands of permit and compliance related documents annually. Because information is transmitted in a paper format, it consumes a disproportionate effort to just review and record these documents even without a comprehensive way to evaluate the information they contain. Through the Department's new interactive Internet portal, E-DEP, electronic filing of forms has commenced. Systems are being developed to automate data review and compliance evaluations, generate the response correspondence and create a database for strategic planning and performance measurement. In the same vein, advances in laptop computing will allow inspectors to electronically enter and download their facility reports into integrated databases accessible across the agency. All these initiatives mutually reinforce the Department's intention to promote technology that transfers FTEs from administration to more productive outcomes. These developments also complement the growth of the Department's web page (http:\www.mass.gov/dep) as an expanding source of information on DEP's regulations and policies, programs, and initiatives.

- Enforcement Policy and Process. In the six years since the adoption of the original policy governing the conduct of enforcement actions, the Enforcement Response Guidance, the Department has enacted a series of policies and put in place a set of management procedures that has substantially contributed towards the growth in enforcement results summarized in this report. With the benefit of that experience and the necessity to demand that process adds value, DEP is initiating a focused evaluation of its enforcement policies and procedures with the goal of identifying streamlining opportunities, accelerating the timeliness of the C& E cycle and verifying that higher level enforcement actions are achieving their strategic objective.

- Measures of Success. The progress reflected in this report on placing greater reliance on measuring the impact of C&E on the regulated community and the environment will continue to be advanced. These measures become even more important in a period when the deployment of declining resources becomes a crucial concern. Their role in refining strategic plans, selecting sector targets, highlighting problems, and affording meaningful communication will be a valuable tool in the Department's ability to have a successful compliance and enforcement program that is integrated into the overall program goals.

- Partnering. Over the past several years, the Department's relationship with EPA Region 1 in the compliance and enforcement area has expanded and deepened. It is acknowledged nationally, that the extent of communication and degree of cooperation between Region 1 and the New England states is unique. In addition to the annual compliance and enforcement planning associated with the Performance Partnership Agreement, the Bureaus' C&E staff have regular operational meetings with their federal counterparts and the agencies have coordinated on several major cases and initiatives such as the one involving colleges and universities discussed earlier in the report. The Department will look to further opportunities to collaborate with EPA on a range of priority setting and operational areas.

- Environmental Justice. The Environmental Justice Policy adopted by the Executive Office of Environmental Affairs in October of 2002 commits the Department to making environmental justice a priority across many aspects of our work. That commitment is consistent with past DEP practice as evidenced by the Department's national leadership in addressing environmental concerns associated with the cleanup of hazardous waste sites, enhanced control of air pollution from coal/oil fired power plants, enhanced control of toxic emissions from municipal waste combusters, reducing the industrial use, generation and disposal of toxic materials including mercury, reducing mobile diesel emissions, and increased standards for the siting of solid waste management facilities. In regard to compliance and enforcement in particular, a recent Department analysis indicates that the percentage of inspections conducted by the Bureau of Waste Prevention (air emission sources and solid/hazardous material management facilities) in FY02 matched the percentage of those type of facilities located in EJ Population areas. Using the policy's new delineation of EJ Population areas, DEP will be able to integrate that geographical information into its targeting and performance measurements in order

to achieve the policy's objectives of ensuring that facilities with the potential to significantly impact these areas are in compliance.

Although compliance and enforcement is a cornerstone of our regulatory program, it still represents one building block in the integrated solutions the Department must construct to address the complex environmental concerns the Commonwealth confronts within its own borders, as well those arising from regional, national, and global considerations. The Department intends to build off the progress and directions this report describes and adapt its programs to concentrate its compliance and enforcement efforts in ways that deter non-compliance and achieve long term, permanent environmental results.